TECHNICAL PROGRESS REPORT NO. 135 FEBRUARY 1962

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A Preliminary Summary

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1862-1962

LAND GRANT COLLEGES

CENTENNIAL OF THE MORRILL ACT OF 1862
CREATING THE LAND-GRANT COLLEGE SYSTEM

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THE ECONOMICS OF THE HAWAIIAN BEEF INDUSTRY IN 1962

A Preliminary Summary[1]

by Perry F. Philipp[2] and C. Richard Creek[3]

REASON FOR THE SUMMARY

The authors are preparing for publication an agricultural economics report entitled "The Economics of the Hawaiian Beef Industry in 1962." They are publishing this preliminary summary in advance so that it may serve as resource material, particularly during the 1962 session of the Hawaii State Legislature.

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[1] This technical progress report is the result of work done under Hawaii Agricultural Experiment Station Projects 358 and 366. The former project is Hawaii's contributing project in Western Regional Project W-16 (Economics of Range Resource Use).

Technical Progress Report No. 135 was first released in preliminary mimeographed form. In this printed report, some slight revisions were made. This publication supersedes the mimeographed report.

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IMPORTANCE OF THE HAWAIIAN BEEF INDUSTRY

The value of beef and veal sales at the ranch or farm in Hawaii was \$9.9 million in 1960, of which \$9.3 million was produced on cattle ranches or feedlots and \$0.6 million on dairy farms. These sales amounted to 22 percent of all sales of diversified agricultural products in the State. Beef and veal production in Hawaii amounted to 25 million pounds in 1960. Hawaii's 410 commercial ranchers used more than one-fourth of the State's land area.

STATISTICS OF THE HONOLULU BEEF MARKET

Two-thirds of the total state production and practically all imports of beef were sold on the Honolulu market in 1960. Figure 1 summarizes developments in the Honolulu beef market during the last decade.

Mainland, New Zealand, and Australian imports were associated with the slowdown in growth of sales of island beef in 1958 and 1959 and with the decline in 1960. Hawaiian producers contributed 46 percent to the total Honolulu market supply, mainland exporters 30 percent, and foreign exporters 24 percent in 1960. The share of Hawaiian producers in the Honolulu market declined from 51 percent in 1958 to 46 percent in 1960 despite a slight increase in total sales of Hawaiian beef in Honolulu during this period.

COMPARISON OF THE BEEF INDUSTRIES IN HAWAII AND IN THE WESTERN UNITED STATES

Many of the grazing lands in the mainland West are federally-owned Taylor Grazing and National Forest lands, which are leased to ranchers below their productive value. The low rentals are in effect a large federal subsidy to mainland ranchers. Hawaiian ranchers must bid for public land at public auction.

Mainland ranchers usually have lower costs than Hawaiian ranchers for land owned in fee, for ranch labor, and for transportation of almost everything they buy. While mainland ranchers have generally lower costs for some operations such as fencing and weed control, island ranchers have lower requirements for a few other items such as supplementary feed. On balance, mainland ranching costs are lower than island ranching costs.

Island feedlots and slaughterhouses are mostly producer-owned, while they are usually independently owned on the Mainland. In Hawaii, ranchers, pen feeders, and packers are limited in many ways by having only one major market, Honolulu, a pocket market. On the Mainland, beef sellers generally have many and different types of markets open to them. They are often able to specialize at substantial cost advantage.

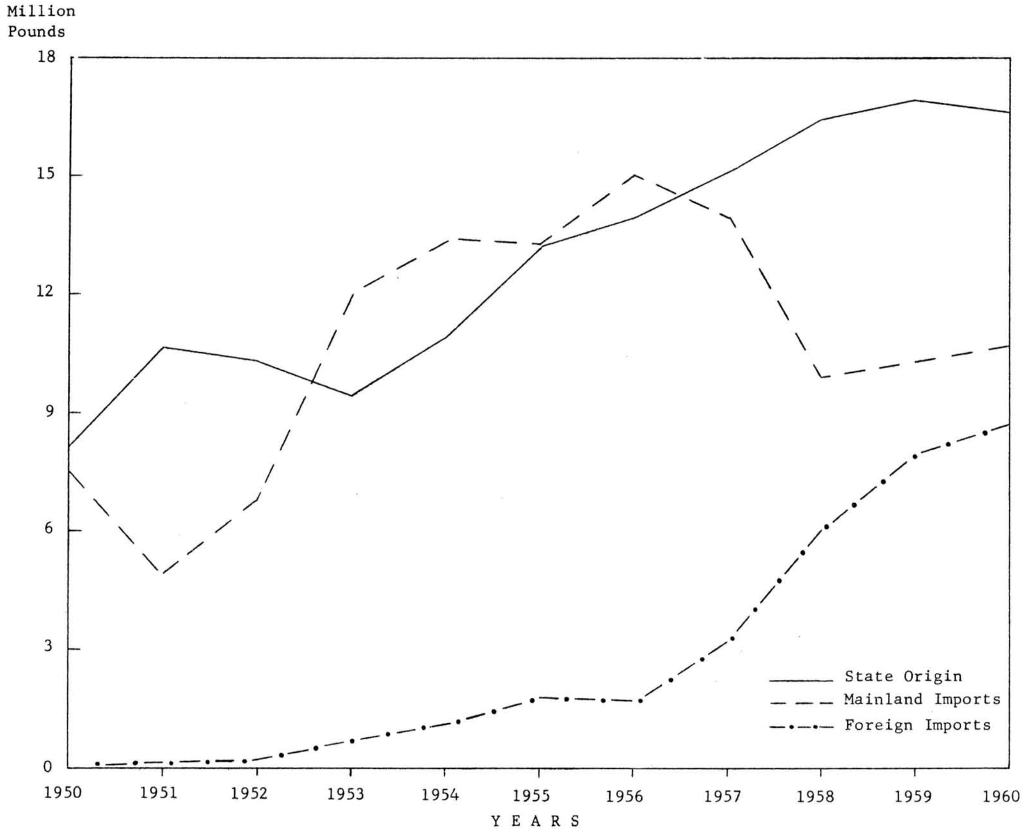

FIGURE 1. Honolulu market supply of beef and veal which was of State. Mainland, and Foreign origin in the years 1950–1960.

COMPARISON OF BEEF INDUSTRIES IN HAWAII AND IN NEW ZEALAND AND AUSTRALIA

An estimated four-fifths of Hawaii's foreign imports of beef come from New Zealand and one-fifth from Australia, and they are of rather low quality. However, a shift in the relative profitability of beef versus other livestock products in New Zealand could result in a rapid increase of exports of fairly high grade, grass-finished beef.

Honolulu, the closest and highest priced American port, is a favorite market for "down-under" beef. In 1960, 24 percent of Honolulu's market supply came from there compared to only 1.7 percent for the entire United States.

All New Zealand and Australian beef is now shipped to Honolulu in frozen form. Trial shipments of chilled New Zealand beef were sold successfully in Honolulu two years ago. Chilled New Zealand beef imports are an even more serious threat to Hawaii's beef industry than the present frozen imports.

Cost of production of beef is much lower in New Zealand than in Hawaii for the following reasons:

1. Minimum wages on pastoral farms in New Zealand are $0.74 per hour. Actual wages paid are mostly higher in view of the scarcity of agricultural labor. They are estimated to average $0.84 per hour plus some perquisites. Labor costs for common ranch labor in Hawaii range from $1.00 to $2.20 per hour, with most wages on large ranches closer to the maximum.

2. Land and livestock values are lower in New Zealand, but some imported items are higher. On balance, inventory values and capital requirements are much lower than in Hawaii.

3. Real estate taxes are lower. Hawaii's real property tax is about 1.5 cents per $1.00 of assessed value of improved land. Much of New Zealand's land tax is calculated at .4 cent per $1.00 of the assessed value of the *un*improved land, with over $8,000 of the assessed value tax exempt on the smaller ranches.

4. New Zealanders operate under near-perfect climatic conditions for pasture and livestock.

Most of Australia's export beef is raised in the North, which has a large expansion potential. However, production there is made difficult by drought, pests, diseases, and lack of transportation facilities. Market quality of beef is low, because only the older animals can survive the long drives to market. Ranchers keep their costs down by using much land, their low-priced resource, together with a minimum of labor and of capital improvements such as fences.

COSTS, RETURNS, AND MARGINS IN MARKETING ISLAND BEEF IN HONOLULU

The wide variation in grade and quality of island beef animals from ranches and feeding pens is matched by the variation in number, size, and type of consumer cuts. Quality of meat and merchandising practices also vary between retail outlets from supermarkets to butcher shops.

TABLE 1. Gross returns or margins *per 100 pounds* of carcass beef to rancher/feeder, slaughterer, and retailer in Honolulu in 1961

Grade or type	Rancher-feeder	Slaughterer in Honolulu	Retailer in Honolulu
	Gross returns *Dollars*	*Gross margins** *Dollars*	*Gross margins* *Dollars*
U. S. Choice	44.80	3.50	30.38
U. S. Good	42.73	3.50	27.52
Island steer	40.50	3.50	17.39
Island heifer	39.23	3.50	14.52
Cow-Commercial	29.73	3.50	12.79

*In addition to the service charge shown, the slaughterer also receives the value of byproducts.

Gross returns or margins in table 1 mean the amount of money available to pay expenses of the business and provide a profit for the owners. The returns or margins were calculated on the basis of 100 pounds of carcass beef using different weighted prices for retail cuts, but the same proportion of cuts for each of the five grades or types. Retail prices were obtained from all the supermarkets and from a representative sample of superettes and meat markets in Honolulu in January 1962.

Returns to retailers were calculated at the posted prices for various cuts and did not include special price reductions nor the steaks and roasts that finally were sold as ground beef at one-half the price for fewer pounds. The price determining process for graded island beef is basically the mainland price for carcass beef plus transportation and handling charges. For ungraded island beef the wholesale price is somewhat lower and is a result of demand from retailers and supply from ranches and imports.

For example, U. S. Choice grade island beef for which pen feeders received $47.00 per cwt., before paying transportation costs, was sold by slaughterers at $50.50 to retailers, who in turn received $80.88 from their customers. For island steer beef (not graded) the rancher received $43.00, before transportation costs, the slaughterer $46.50, and the retailer $63.89 per 100 pounds.

Gross returns to the rancher/feeder, after transportation costs were paid, declined $4.30 per cwt. between U. S. Choice and Island steer beef while the margin for retailers declined $13.00 (table 1). Retail price markup was lower on the lower quality beef on a percentage basis and was considerably less on a cents per pound basis.

CHANGES IN THE HONOLULU BEEF MARKET

According to a University of Hawaii study,[4] 63 percent of Honolulu consumers preferred island beef in 1952, 14 percent, mostly Caucasians, preferred mainland beef, and the rest did not care either way. Among restaurants, a slight majority, 53 percent, preferred mainland beef. Practically no "down-under" beef was imported then.

In 1957, 82 percent of all mainland imports for Honolulu were carcass beef or beef cuts, 9 percent were rib eye, and 9 percent were ground beef. Of the beef carcasses and cuts, 94 percent was of U. S. Choice grade and 5 percent of U. S. Good grade.

In 1960, 64 percent of all New Zealand and Australian imports to Honolulu was boneless beef used mainly for sausages and hamburgers.

Despite the 1952 consumer and restaurant preferences, imports to Honolulu had increased by 1960 twice as fast as sales of island beef. Why?

Honolulu restaurants, which liked imports already a little better than island beef in 1952, increased in importance because:

1. The number of tourists increased.

2. Residents were eating out more.

Many restaurants shifted to New Zealand beef, because it was cheaper. The restaurant customer does not see the usually less attractive looking frozen beef from New Zealand and he generally does not know that he is eating it.

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[4] Peters, C. W., R. H. Reed, S. M. Doue, and R. H. Clark, *Meat Purchases and Preferences in Hawaii*, HAES Agricultural Economics Bulletin 8, University of Hawaii, 1954.

Honolulu consumers now eat more U. S. Choice beef because:

1. Dietary habits changed with closer integration between Hawaii and the Mainland.

2. More Caucasians who came to live here preferred graded choice beef.

3. Higher incomes allowed Honolulans to buy better beef.

4. Honolulu retailers advertised U. S. Choice beef from the Mainland.

This item 4 is important and needs an explanation. Large supermarkets with self-service counters have taken over a large share of the Honolulu food market. They promote consumer preference for particular lines of beef. However, they will do this only if they are assured of a continuous supply of a uniform, standardized quality of beef. Apparently, when they could not get an assurance for this type of a supply of island beef, they developed a market for mainland U. S. Choice beef.

Honolulu retailers are not fully satisfied with mainland beef because ships arrive irregularly at times. As a result retailers need additional storage and they are sometimes faced with quality deterioration and trimming losses. New Zealand, in addition to the above factors, sends beef of varying quality; it competes entirely on a price basis. Price, as was shown in the 1952 Consumer Survey, is not the only factor in the choice of beef by Honolulu consumers.

Island cattlemen might be able to replace much of the higher quality imports. This would require more and continuous production of both U. S. Choice grade beef and beef of good, but somewhat lower quality. It would mean much more pen feeding, and possibly additional supplementary feeding on the ranch. It might require cooperation with the retailers in rebuilding consumer acceptance for the improved island beef.

Replacing imports would require more integration between the final seller of beef to the retailer and all preceding processing and marketing stages including the rancher. Ways will have to be found so that each rancher carries a fair burden of the cost involved in producing better island beef. The members of the beef industry will have to decide on the type, number, and ownership of their beef marketing and processing organizations.

PEN FEEDING AND OTHER BEEF MARKETING AND PROCESSING ACTIVITIES BETWEEN RANCHER AND RETAILER

Table 2 shows costs and returns from 744 pen fed steers and heifers for one Oahu pen feeder in 1961. These cattle averaged 4½ months in the

TABLE 2. Average costs and returns per head for 744 cattle which were pen fed in Honolulu in 1961

Item	Average per head			
	Dollars		*Percentage*	
Carcass value paid by retailer at $.486 per pound for 534 pounds		259.54		100.0
Slaughter fee at 3.5 cents per pound carcass weight	18.52		7.1	
Inspection fee	1.00		.4	
Hauling to and from feedlot on Oahu	3.00		1.2	
Pen feeding costs	146.12		56.3	
Barge transportation to Oahu	9.36		3.6	
Total pen feeding and marketing costs		178.00		68.6
Return to rancher*		81.54		31.4

*This is the amount left to the rancher to pay for raising the feeder animal weighing 546 pounds live weight.

feedlot. After slaughter, only 45 percent graded out U. S. Choice, 50 percent graded U. S. Good, and 5 percent were below these grades.

A pound of live weight gain in the feedlot cost on the average 35.3 cents. The rancher got back 14.9 cents per pound live weight for raising the feeder for the feedlot, which was substantially below his break-even point.

Some thoughts on cost reduction: If the feed cost in the above example could be reduced by 10 percent, the cost of pen feeding would decline by over $13 per head; the return to the rancher would increase in turn from 14.9 cents to 17.3 cents per pound, or by 16 percent.

The same mixed feed, which cost $82 per ton at the Honolulu feedlot, cost $51 at the California mill, a difference of 61 percent for transportation and handling. Ocean freight in 20-ton containers, including loading, unloading, maritime insurance, etc., was about $23 per ton. Pelleting is required to get 20 tons into the container and costs another $3 per ton. Trucking from mainland mill to harbor and from Oahu harbor to feedlot was another $5 per ton. The 2,000-ton bulk rate (free in and out basis), not including costs such as stevedore handling in and out of the ship, from a California port to Honolulu is only $10 per ton. Why not ship in bulk?

Other ways in which the pen feeder could perhaps reduce costs are changing the kind of feed bought, the place where purchased, and the volume bought. Perhaps some locally-produced feed could be substituted.

An improved feed/beef gain conversion ratio, say from the existing 7.76 pounds of feed per pound of gain in live weight down to a 7.0 ratio, would reduce feed costs per head by about $14. This would increase the return to the rancher for his feeder from 14.9 cents to 17.6 cents per pound live weight.

An improved type of feeder animal with a carcass dressing percentage of 56.7 percent instead of the actual 55.7 percent in the above example would increase ranch return from 14.9 cents to 15.8 cents per pound.

Increasing the number of cattle in the feedlot would greatly decrease the nonfeed costs of operating the feedlot. Shifting the feedlot location, perhaps even to an outer island location, may reduce costs under certain conditions.

Combining many small slaughterhouses into a few big ones may reduce slaughter costs. Reducing shipping costs from the outer islands by shipping cattle dressed rather than live may be possible.

RANCHING COSTS AND RETURNS

The 1960 costs and returns of two Hawaiian ranches per head of cattle in their average inventory are shown in table 3. One ranch is owner-operated and is of a little more than family size; the other is a larger, manager-operated ranch. Both ranches are considered well run by ranchers. They were selected as samples before the cost-return calculations were made.

In the inventory, cattle were listed at market value, land at the market value used by the State Tax Office for assessing purposes, and all other items at their depreciated book value.

If all costs, including a 6 percent return on all invested capital, were deducted from the ranch gross return, both ranches showed a large loss (table 3). Even when all land costs, including actual rent paid and 6 percent interest on the tax assessor's market value of owned land were disregarded as costs, both ranches showed a large loss. When all operating costs other than interest on the invested capital were deducted from gross returns, ranch 1 just broke even and ranch 2 showed a return of ½ of 1 percent on its investment.

TABLE 3. 1960 costs and returns of two Hawaiian ranches per head of cattle in average inventory

Item	Costs and returns per head in inventory			
	Ranch 1		Ranch 2	
	Dollars	Percent of total costs	Dollars	Percent wage of total costs
Gross return adjusted for change in cattle inventory	77	80	55	79
Costs:				
Labor costs including that of owner-operator or manager	28	29	26	37
Real estate taxes	2	2	1	2
Interest at 6 percent on inventory value excluding land	11	11	10	15
Land, including rent paid and interest on tax assessor's market value of owned land	12	13	7	10
Other*	43	45	25	36
Total costs	96	100	69	100
Net loss	-19	20	-14	21
Net loss without including land costs	- 7	7	- 7	10
Net gain without including rent and interest costs	+ 5	5	+ 3	4
Return on total capital invested in ranch**	0.0 percent		0.5 percent	

*Included are cash costs such as feed and other materials, repair parts, contracts, services, and noncash costs such as depreciation.

**In calculating this item, all costs other than interest on the ranch inventory were deducted from gross return. The resulting figure was divided by the total inventory value of the ranch and multiplied by 100.

All ranching costs increased substantially during the past decade, while the price of beef declined. Labor, the largest single cost item on most ranches, probably increased most. On two ranches, for example, cowboy wages including fringe benefits increased from $1.32 per hour in 1950 to $2.20 per hour today, an increase of 67 percent. It is questionable whether the productivity of ranch labor has kept pace with this advance in wages.

Ranchers try to reduce their relatively more expensive labor force and to substitute for it relatively less expensive capital improvements, but this process is too slow in some cases. In view of the present low-profit level of ranches, financing of these needed improvements may not be easy.

Rents, particularly on recent state leases, appear to be out of line with today's ranch profits. Real property taxes have also substantially risen. On two sample ranches this rise averaged 63 percent over the last decade.

RANCH MANAGEMENT

In Hawaii, pen feeding is not carried on for its own profitability, but only to help sell ranch cattle. Thus, ranch management must plan for maximizing profits right through pen feeding. Ranch managers in Hawaii today must make decisions in the following general problem areas:

1. Developing the right animal for both the ranch and the feedlot.

2. Timing breeding periods to make best use of ranch resources and to satisfy market requirements.

3. Deciding length of time of keeping feeders on the ranch and in the feedlot.

4. Producing what the market wants and integrating and coordinating ranch supply with over-all market requirements.

5. Creating conditions which assure continued feeder gains throughout the animal's life.

6. Deciding optimal size and composition of the herd from year to year and during the various seasons of the year.

7. Deciding feeding levels, including supplementary feeding of imported and local feeds and possible production of the latter.

8. Making optimal ranch upkeep and improvement plans.

9. Bringing about high labor, capital, and overhead efficiency and good labor relations.

SUMMARY STATEMENT AND ALTERNATIVES FOR GOVERNMENT AID

Hawaii's beef industry is confronted with revolutionary developments, which have brought it face to face with a difficult financial situation. These developments are:

1. Greatly increased imports of both high and low quality beef, the latter originating in foreign production areas having low costs.

2. Changes in the demand structure for beef.

3. Changes in the type of Hawaiian retailers and in their business practices.

4. Need to change to higher quality-higher cost beef.

5. Higher costs of labor, land, materials, equipment, taxes, and transportation.

Since we live in a free enterprise economy, it is up to Hawaii's beef industry to make the necessary adjustments, which will enable it to stay in business and to become profitable again. If the legislative or executive branches of the government should decide that this industry needs government assistance, the following areas are suggested, where such help might be given:

1. *General Excise Tax.* The gross income tax on producers is now ½ of 1 percent. However, cattle feeding is considered a service and pen feeders pay a general excise tax of 3½ percent on contract feeding.

2. *Real Property Tax.* The real property tax burden on some ranches could be reduced or at least held down by speedy action under the "Green Belt" law. Consideration might be given to temporary reduced tax assessments of pasture land.

3. *State Inspector's Fee.* State meat inspectors charge a fee of $1.00 per beef carcass in state-inspected slaughter plants, while federal meat inspectors provide their services at no cost in federally-inspected slaughterhouses.

4. *Public Leases.* Lower upset prices of government pasture leases at public auction might be considered. Reopening clauses might be inserted in government leases, allowing two-way adjustments of rental payments, when basic conditions should change. Lease rates could be geared to the market price of beef.

5. *Transportation and Bulk Unloading.* Assistance might be given in maritime transportation, both on mainland to Hawaii runs for feed and on interisland runs for feed and cattle, and in bulk unloading of feed.

6. *Research.* Additional appropriations for ranch research will help solve some of the many problems which Hawaii's cattlemen face.

7. *Beef Grading.* Beef grading is today a controversial subject in Hawaii. Some are in favor of compulsory grading of all beef entering the Hawaiian market other than that which is sold for manufacturing purposes. This would virtually eliminate the importation of all New Zealand and Australian beef in frozen form which is not used for manufacture. Those in favor of compulsory grading believe that it would assure the consumer of getting the quality of beef which he wants. They think that it would also act as an incentive to island cattlemen to improve the quality of their beef.

   Those who object to any compulsory grading of beef point out that it is additional government interference in private business, which raises costs and reduces freedom of action in the Hawaiian beef industry. They fear that compulsory grading may force New Zealand and Australian shippers into exporting chilled beef to Hawaii. Some also believe that compulsory grading will result in a de facto interference with foreign trade of the United States, an area of action reserved to the federal government.

   In between the above two extremes are those who would give the beef seller the alternative of either grading his beef or of labeling it "ungraded."

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